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(54) Title: CD20-SPECIFIC REDIRECTED T CELLS AND THEIR USE IN CELLULAR IMMUNOTHERAPY OF CD20<sup>+</sup> MALIGNANCIES

(57) Abstract: Genetically engineered, CD20-specific redirected T cells expressing a cell surface protein having an extracellular domain comprising a receptor which is specific for CD20, an intracellular signaling domain, and a transmembrane domain. Use of such cells for cellular immunotherapy of CD20<sup>+</sup> malignancies and for abrogating any untoward B cell function. In one embodiment, the cell surface protein is a single chain FvFc- $\zeta$  receptor where Fv designates the V<sub>H</sub> and V<sub>L</sub> chains of a single chain monoclonal antibody to CD20 linked by peptide, Fc represents a hinge-C<sub>H</sub>2-C<sub>H</sub>3 region of a human IgG<sub>1</sub>, and  $\zeta$  represents the intracellular signaling domain of the zeta chain of human CD3. A method of making a redirected T cell expressing a chimeric T cell receptor by electroporation using naked DNA encoding the receptor.

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